

## **REMARKS**

Claims 1-21 were originally presented. Claims 1-7 were previously cancelled without prejudice or disclaimer pursuant to a restriction requirement. Claims 8-21 stand rejected on prior art grounds and upon informalities. Applicants respectfully traverse these rejections based on the following discussion.

### **I. The 35 U.S.C. §112, Second Paragraph, Rejection**

Claims 8-21 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically the Office Action indicates that the “Examiner is uncertain what is meant by “exploding” and “imploding” a demand item “through said supply chain network” and “through said set of stocking points.” The use of the language is unclear. It appears that “exploding” and “imploding” means searching through a set of stocking points. For examination purposes, this is the interpretation that Examiner will apply to these terms.” These rejections are traversed as explained below.

MPEP§2173.02 provides that “The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.” MPEP§2173.02 further references *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71

USPQ2d 1081, 1089 (Fed. Cir. 2004), which held that "The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles...Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite."

The Applicants submit that concepts of "exploding" and "imploding" well-known in the field of data analysis, are taught in prior analogous art and are further defined in the specification as they relate to the present invention. Thus, given the above requirements set out in MPEP§2173.02, the use of the terms exploding and imploding in the claims should not be deemed indefinite. More specifically, the Applicants submit that those skilled in the art would recognize that at the most basic level, exploding refers to decompressing data down to its most original form (e.g., breaking down strings into raw data), whereas imploding refers to compressing data (e.g., creating strings of from raw data).

Additionally, as discussed in U.S. Patent No. 5,943, 584 (which was incorporated into the disclosure of the present invention by reference), in the case of supply chain networks Materials Requirements Planning "is a system for translating demand for final products into specific raw material and manufacturing activity requirements by exploding demand backwards through the bill of material (BOM) and assets." The invention of U.S. Patent No. 5,943, 584 discloses and claims both exploding and imploding processes. Specifically, at Block 704 of FIG. 7 it takes an initial set of LPMRP parts (from Block 703) and explodes them downwards through their bills of material supply chains to identify additional parts which must be categorized as LPMRP parts.

Subsequent to the explosion, all parts identified as LPMRP parts are "imploded" up their bills of material supply chains identifying each part along the way as an LPMRP part.

Finally, in the present invention, the exploding and imploding processes are clearly defined in the specification and clarified in the amended independent claims. That is, one step in the method of the present invention comprises "exploding said demand item through said supply chain network". This exploding process specifically comprises "identifying in said supply chain network a set of stocking points for said part number that have shipping routes connected to said customer location" (see paragraphs [0078]-[0079]). Another step in the method of the present invention comprises "imploding said demand item through said set of stocking points". This imploding process comprises identifying active stocking points (i.e., stocking points in the set of stocking points that have the current ability to supply the part number) and also identifying inactive stocking points (i.e., stocking points in the set of stocking points that do not have the current ability to supply the part number) (see paragraph [0080]). An exemplary pseudo code description of the algorithm used to perform these process steps is also provided in the specification (see paragraphs [0087]-[0177] and, more particularly, paragraphs [0101]-[0110]).

In view of the foregoing, the Applicants submit that claims 8-21 are not indefinite in that they do not fail to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Therefore, the Examiner is respectfully requested to reconsider and withdraw this rejection.

## **II. The Prior Art Rejections**

Claims 8-21 stand rejected under 35 U.S.C. §102(e) as being anticipated by Crampton, et

al. (U.S. Publication No. 2003/0149631), hereinafter referred to as Crampton. Applicants respectfully traverse these rejections based on the following discussion.

The Applicants submit that the cited prior art references does not teach or suggest the following limitations of amended independent claim 8 (or the similar features of amended independent claims 15 and 21): (1) “exploding said demand item through said supply chain network, said exploding comprising identifying in said supply chain network a set of stocking points for said part number that have shipping routes connected to said customer location”; (2) “imploding said demand item through said set of stocking points, said imploding comprising: identifying active stocking points, said active stocking points comprising ones of said stocking points in said set of stocking points that have the current ability to supply said part number; and identifying inactive stocking points, said inactive stocking points comprising ones of said stocking points in said set of stocking points that do not have the current ability to supply said part number”; (3) “removing said inactive supply stocking points from said set of stocking points to form a set of active stocking points”; and (4) “allocating said active stocking points in said set of active stocking points to said customer order using said production planning system to produce a material allocation plan.”

In rejecting independent claim 8, the Office Action provides that Crampton discloses “• exploding said demand item through said supply chain network to identify a set of stocking points for said part number that have shipping routes connected to said customer location (see paragraph 131: lines 9-21; paragraph 132);• imploding said demand item through said set of stocking point to: • identify ones of said stocking points that have the current ability to supply said part number as active stocking points (see paragraph 131: lines 38-41; paragraph 133); and •

identify ones of said stocking points that do not have the current ability to supply said part number as inactive stocking points (see id.)". The Applicants respectfully disagree.

Per the Abstract, Crampton teaches a system and method for planning the utilization of resources in order to meet demand as defined by an order. The system and method is an attribute-based system and method that may be part of an overall system and method for planning the use of supply chain network resources. The system and method attempts to fulfill an order by determining the best location-resource-bucket opportunity. The method and system may use several user define criteria as well as evaluating each acceptable resource's ability to supply the requested goods through inventory, manufacture, purchase and/or substitution.

Paragraph [0130] of Crampton refers to step 228 of Figure 2B, wherein the use of resources for fulfilling one or more orders is planned. The algorithm process orders one at a time evaluating potential assignments (buckets, resource and location) for the order. The algorithm selects the most suitable assignment for the order by assessing the assignment using a user-defined multi-tiered objective function and ensuring that the assignment is feasible with respect to both material and capacity constraints.

Paragraph [0131] of Crampton refers to Figure 4, which sets out the process flow for completing step 228 of Figure 2B (for fulfilling demand). At step 402, an order is selected for processing. At step 404, prioritize admissible/feasible locations for the order item (i.e., generate a prioritized list of SKUs), identify the finished goods associated with the selected order and create a collection of finished goods SKUs. Paragraph [0090] provides that each SKU associates an item and a location and a FG SKU refers to a finished good stock keeping unit or the SKU that has a finished good. At step 406, an SKU from a selection of FG SKUs is selected for

planning. At step 408, each FG SKU is initialized so that the FG SKU will have all of the attributes of the corresponding order and/or item. At step 410, determine which resources are acceptable resources to use for planning the SKU and sort according to priority. At step 411, select acceptable resource with highest priority. At step 412, make a material feasibility determination to determine whether the location/resource has sufficient materials to satisfy demand. Etc.

Lines 9-12 of paragraph [0131] of Crampton, cited as disclosing the exploding process, refer to the order selection process 402 and the admissible location prioritization process 404. Paragraph [0132] also cited as disclosing the exploding process provides a simplified example of how steps 402 and 404 are accomplished. At step 402, an order O1 is selected from a list of prioritized orders. At step 404, based on the information associated with the order O1, a list of FG SKUs (i.e., admissible locations LOC1, LOC2, LOC3) is determined and can be sorted by preference. As mentioned above, an FG SKU is a finished good stock keeping unit. Thus, Crampton discloses determining a set of stock keeping units for a finished good, “based on the information associated with order O1” and sorting the stock keeping units by “preference”. However, nowhere in the cited portion of Crampton does it teach or suggest that the set of FG SKUs include only those FG SKUs that “have shipping routes connected to said customer location”, as claimed.

Lines 38-41 of paragraph [0131] of Crampton, cited as disclosing the imploding process, refer to a material feasibility determination 412. Paragraph [0133], also cited in the rejection, provides an explanation of processes 412-414 of Figure 4. Specifically, at step 410, a previously selected order-location pair (O1-LOC1) is reviewed and a determination of a list of acceptable

resources for manufacturing the order O1 at the location LOC1 is made and sorted by preferences. At step 412, an attempt is made to schedule the order at the first resource RS11 on which the order O1 can potentially be manufactured at the location LOC1. At step 414, the combination O1-LOC1-RS11 is scheduled, evaluated and graded. Paragraph [0134] provides that steps 412-414 are repeated for each resource. Then, the graded scheduling opportunities for each combination are compared to determine the best for LOC1. Paragraph [0135] provides that the process is repeated for LOC2.

Thus, Crampton discloses, for each location LOC1-3 for an order O1, determining a list of resources that can be used to manufacture the order, prioritizing the resource list, attempting to schedule manufacturing using the first resource on the list, and then evaluating and grading the scheduling opportunity. Graded scheduling opportunities for each resource on the list for a given location are then compared to determine the best scheduling opportunity for a given location. This is followed by a comparison of the best scheduling opportunities from the different locations to determine the best combination so far. Once the best combination (O-LOC-RS) is determined, the order is assigned.

However, nowhere in the cited portion of Crampton does it teach or suggest performing an imploding processes that identifies, within the set of stocking points (in the case of Crampton the list FG SKUs), both the active stocking points (i.e., the stocking points that have the current ability to supply the part number) and the inactive stocking points (i.e., the stocking points that do not have the current ability to supply the part number). Furthermore, Crampton does not teach or suggest performing such an imploding process so that stocking points that do not have the current ability to supply a part are removed from consideration prior to an allocation process

(i.e., prior to the order planning process). That is, in Crampton, as described in paragraphs [0130]-[0133] and summarized above, all acceptable resources at all admissible/feasible locations (whether they are currently able to supply a part number or not) are considered during the order planning process. The step-by-step process in Crampton, which determines the best scheduling opportunity combination and allocates locations/resources based on that best scheduling opportunity combination, may eventually eliminate locations that are not currently capable of supplying a part number. However, the present invention has an advantage over Crampton in that it considers less data during the allocation process itself and, thereby, shows improvement in runtime. Specifically, because the imploding process of the present invention allows inactive stocking points to preemptively be removed from consideration, the allocation process is performed by the production planning system using a set of active stocking points only (not a set of all FG SKUs, as in Crampton). Since only active stocking points (and, more particularly, active stocking points that have shipping routes connected to the customer location) are considered, the amount of data processed by the planning system is significantly reduced and, thereby, so is the runtime.

Therefore, the Applicants submit that amended independent claims 8, 15 and 21, are patentable over the cited prior art reference. Further, dependent claims 9-14 and 16-20 are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.



### **III. Formal Matters and Conclusion**

With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, Applicants submit that claims 8-21, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. Therefore, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims and further to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

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